

67. (New) The method of claim 48 or 49 wherein said method can be used to determine the state of activation of NK and/or T cells within a subject.

68. (New) The method of claim 48 or 49 wherein said method is used to predict or monitor the state of resistance of a subject to (i) infection, wherein said infection is viral, parasitic or bacterial (ii) autoimmune disease, or (iii) the development of malignant cells.

69. (New) The method of claim 48 or 49 wherein said method is used to screen for compositions which are used to reduce the symptoms associated with infectious autoimmune or proliferation disorders.

70. (New) A kit for carrying out the method of claim 48 or 49 comprising a container, at least one said 3' and 5' oligonucleotide pair, and reagents for carrying out the said method.

71. (New) The kit of claim 70 wherein said 3' and 5' oligonucleotide pair is coupled to a marker.—

#### R E M A R K S

Applicants have canceled claims 1-23 and inserted new claims 24-71.

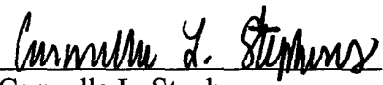
Entry of the foregoing amendments and remarks into the file of the above identified application is respectfully requested. The Applicant believes that the invention described and defined by the new claims is patentable. Consideration of the new claims is requested. An early allowance is earnestly sought.

PATENT

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned "**VERSION WITH MARKINGS TO SHOW CHANGES MADE.**"

Respectfully submitted,

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**VERSION WITH MARKINGS TO SHOW CHANGES MADE****In the Claims:**

Please cancel claims 1-23, without prejudice.

Please insert the following new claims:

24. (New) An *in vitro* method for identifying the repertoire of NKR inhibitory immunoreceptors within a subject, these immunoreceptors being designated hereinafter target receptors, comprising:
- (i) contacting a nucleic acid sample derived from said subject with at least one pair of oligonucleotides, one being designated a 3' oligonucleotide and the other a 5' oligonucleotide, wherein the 3' and 5' oligonucleotides hybridize in a buffer comprising 20 mM Tris-HCl, pH 8.4; 50 mM KCl; 2.5 mM MgCl<sub>2</sub> at a temperature of between 50°C and 65°C, to a nucleic acid encoding a target receptor, but do not hybridize, under the same hybridization conditions, with a NKR activatory immunoreceptor counterpart and;
  - (ii) detecting hybridization between the nucleic acid encoding the NKR inhibitory immunoreceptor and the 3' and 5' oligonucleotide pair(s),

wherein detection of hybridization between the nucleic acid encoding the NKR inhibitory immunoreceptor and the 3' and 5' oligonucleotide pair(s) identifies the repertoire of NKR inhibitory receptors.

25. (New) An *in vitro* method for identifying the repertoire of NKR activatory immunoreceptors within a subject, these immunoreceptors being designated hereinafter target receptors, comprising:

- (i) contacting a nucleic acid sample derived from said subject with at least one pair of oligonucleotides, one being designated a 3' oligonucleotide and the other a 5' oligonucleotide, wherein the 3' and 5' oligonucleotides hybridize in a buffer comprising 20 mM Tris-HCl, pH 8.4; 50 mM KCl; 2.5 mM MgCl<sub>2</sub> at a temperature of between 50°C and 65°C, to a nucleic acid encoding a target receptor, but do not hybridize, under the same hybridization conditions, with a NKR inhibitory immunoreceptor counterpart; and;
- (ii) detecting hybridization between the nucleic acid encoding the NKR activatory immunoreceptor and the 3' and 5' oligonucleotide pair(s),

wherein detection of hybridization between the nucleic acid encoding the NKR activatory immunoreceptor and the 3' and 5' oligonucleotide pair(s) identifies the repertoire of NKR activatory receptors.

26. (New) The method of claim 24 or 25 wherein the 3' or 5' oligonucleotides are coupled to a marker, allowing detection of hybridization between the nucleic acid sample and the 3' and 5' oligonucleotides.

27. (New) The method of claim 24 or 25 wherein the marker is a fluorescence marker.

28. (New) The method of claim 24 or 25 wherein the marker is a radioactive marker.

29. (New) The method of claim 24 or 25 wherein the 3' and 5' oligonucleotide pair(s) serve(s) as 3' and 5' primers, respectively, for extension by DNA polymerase.

30. (New) The method of claim 24 or 25 wherein hybridization between the nucleic acid sample and the 3' and 5' oligonucleotide pair is detected by PCR amplification.

31. (New) The method of claim 24 or 25 wherein amplification is by nested PCR.

32. (New) The method of claim 24 or 25 wherein the hybridization between the nucleic acid molecule encoding the NKR activatory or inhibitory immunoreceptors and the 3' and 5' oligonucleotide pairs is detected by resolution and visualization on a polyacrylamide gel of electrophoretic bands containing the said hybrids.

33. (New) The method of claim 24 wherein said method is used to document the genotypic repertoire of KIR immunoreceptors.

34. (New) The method of claim 24 wherein said method is used to document the expression repertoire of KIR immunoreceptors.

35. (New) The method of claim 25 wherein said method is used to document the genotypic repertoire of KAR immunoreceptors.

36. (New) The method of claim 25 wherein said method is used to document the expression repertoire of KAR immunoreceptors.

37. (New) The method of claim 24 or 25 wherein the nucleic acid sample is of human or animal origin.

38. (New) The method of claim 24 or 25 wherein the nucleic acid sample is derived from blood, bone marrow, lymphocytes, NK and/or T cells or transgenic cells.

39. (New) The method of claim 24 or 25 wherein the nucleic acid sample is a genomic or cDNA library.

40. (New) The method of claim 24 or 25 wherein said method is used to predict or to monitor the acceptance or rejection, by a subject, of cells, tissue or organ which are genetically different.

41. (New) The method according to claim 24 or 25 wherein said method is used to predict or to monitor the safety or the pathogenicity (GVH), for a subject, of a graft or transplant, of cells, tissue or organ which are genetically different.

42. (New) The method according to claim 24 or 25 wherein said method is used to predict or to monitor for a subject of a GVL-type effect on the part of cells, tissue or organ which are genetically different.

43. (New) The method of claim 24 or 25 wherein said method can be used to determine the state of activation of NK and/or T cells within a subject.

44. (New) The method of claim 24 or 25 wherein said method is used to predict or monitor the state of resistance of a subject to (i) infection, wherein said infection is viral, parasitic or bacterial (ii) autoimmune disease, or (iii) the development of malignant cells.

45. (New) The method of claim 24 or 25 wherein said method is used to screen for compositions which are used to reduce the symptoms associated with infectious autoimmune or proliferation disorders.

46. (New) A kit for carrying out the method of claim 24 or 25 comprising a container, at least one said 3' and 5' oligonucleotide pair, and reagents for carrying out the said method.

47. (New) The kit of claim 46 wherein said 3' and 5' oligonucleotide pair is coupled to a marker.

48. (New) An *in vitro* method for identifying the repertoire of NKR inhibitory immunoreceptors within a subject wherein said immunoreceptors are selected from the group consisting of p58.1, p58.2, p70.INH, p140.NH, NKG2A and NKG2B receptors, these immunoreceptors being designated hereinafter target receptors, comprising:

- (i) contacting a nucleic acid sample derived from said subject with at least one pair of oligonucleotides, one being designated a 3' oligonucleotide and the other a 5' oligonucleotide, wherein the 3' and 5' oligonucleotides hybridize in a buffer comprising 20 mM Tris-HCl, pH 8.4; 50 mM KCl; 2.5 mM MgCl<sub>2</sub> at a temperature of between 50°C and 65°C, to a nucleic acid encoding a target receptor, but do not hybridize, under the same hybridization conditions, with a NKR activatory immunoreceptor counterpart and;
- (ii) detecting hybridization between the nucleic acid encoding the NKR inhibitory immunoreceptor and the 3' and 5' oligonucleotide pair(s),

wherein detection of hybridization between the nucleic acid encoding the NKR inhibitory immunoreceptor and the 3' and 5' oligonucleotide pair(s) identifies the repertoire of NKR inhibitory receptors.



49. (New) An *in vitro* method for identifying the repertoire of NKR  
activatory immunoreceptors within a subject wherein said immunoreceptors are selected  
from the group consisting of p50.1, p50.2, p70.ACT, p140.ACT, NKG2C, NKG2D,  
NKG2E and NKG2F, these immunoreceptors being designated hereinafter target  
receptors, comprising:

(i) contacting a nucleic acid sample derived from said subject  
with at least one pair of oligonucleotides, one being  
designated a 3' oligonucleotide and the other a  
5' oligonucleotide, wherein the 3' and 5' oligonucleotides  
hybridize in a buffer comprising 20 mM Tris-HCl, pH 8.4;  
50 mM KCl; 2.5 mM MgCl<sub>2</sub> at a temperature of between  
50°C and 65°C, to a nucleic acid encoding a target receptor,  
but do not hybridize, under the same hybridization  
conditions, with a NKR inhibitory immunoreceptor  
counterpart: and;

(ii) detecting hybridization between the nucleic acid  
encoding the NKR activatory immunoreceptor and the  
3' and 5' oligonucleotide pair(s),

wherein detection of hybridization between the nucleic acid encoding the NKR activatory  
immunoreceptor and the 3' and 5' oligonucleotide pair(s) identifies the repertoire of NKR  
activatory receptors.

50. (New) The method of claim 48 or 49 wherein the 3' or 5' oligonucleotides are coupled to a marker, allowing detection of hybridization between the nucleic acid sample and the 3' and 5' oligonucleotides.

51. (New) The method of claim 48 or 49 wherein the marker is a fluorescence marker.

52. (New) The method of claim 48 or 49 wherein the marker is a radioactive marker.

53. (New) The method of claim 48 or 49 wherein the 3' and 5' oligonucleotide pair(s) serve(s) as 3' and 5' primers, respectively, for extension by DNA polymerase.

54. (New) The method of claim 48 or 49 wherein hybridization between the nucleic acid sample and the 3' and 5' oligonucleotide pair is detected by PCR amplification.

55. (New) The method of claim 48 or 49 wherein amplification is by nested PCR.

56. (New) The method of claim 48 or 49 wherein the hybridization between the nucleic acid molecule encoding the NK cell activatory or inhibitory immunoreceptors and the 3' and 5' oligonucleotide pairs is detected by resolution and visualization on a polyacrylamide gel of electrophoretic bands containing the said hybrids.

57. (New) The method of claim 48 wherein said method is used to document the genotypic repertoire of KIR immunoreceptors.

58. (New) The method of claim 48 wherein said method is used to document the expression repertoire of KIR immunoreceptors.

59. (New) The method of claim 48 wherein said method is used to document the genotypic repertoire of KAR immunoreceptors.

60. (New) The method of claim 48 wherein said method is used to document the expression repertoire of KAR immunoreceptors.

61. (New) The method of claim 48 or 49 wherein the nucleic acid sample is of human or animal origin.

62. (New) The method of claim 48 or 49 wherein the nucleic acid sample is derived from blood, bone marrow, lymphocytes, NK and/or T cells or transgenic cells.

63. (New) The method of claim 48 or 49 wherein the nucleic acid sample is a genomic or cDNA library.

64. (New) The method of claim 48 or 49 wherein said method is used to predict or to monitor the acceptance or rejection, by a subject, of cells, tissue or organ which are genetically different.

65. (New) The method according to claim 48 or 49 wherein said method is used to predict or to monitor the safety or the pathogenicity (GVH), for a subject, of a graft or transplant, of cells, tissue or organ which are genetically different.

66. (New) The method according to claim 24 or 25 wherein said method is used to predict or to monitor for a subject of a GVL-type effect on the part of cells, tissue or organ which are genetically different.

67. (New) The method of claim 48 or 49 wherein said method can be used to determine the state of activation of NK and/or T cells within a subject.

68. (New) The method of claim 48 or 49 wherein said method is used to predict or monitor the state of resistance of a subject to (i) infection, wherein said infection is viral, parasitic or bacterial (ii) autoimmune disease, or (iii) the development of malignant cells.

69. (New) The method of claim 48 or 49 wherein said method is used to screen for compositions which are used to reduce the symptoms associated with infectious autoimmune or proliferation disorders.

70. (New) A kit for carrying out the method of claim 48 or 49 comprising a container, at least one said 3' and 5' oligonucleotide pair, and reagents for carrying out the said method.

71. (New) The kit of claim 70 wherein said 3' and 5' oligonucleotide pair is coupled to a marker.—